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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/671,090	09/25/2003	Manabu Haraguchi	85A 3457	6310

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EXAMINER

KOCH, GEORGE R

ART UNIT PAPER NUMBER

1734

DATE MAILED: 11/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/671,090

Applicant(s)

HARAGUCHI, MANABU

Examiner

George R. Koch III

Art Unit

1734

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 3, 4/3, 5/3, 6/3, 8, 9/3, 11 and 12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 4/1, 5/1, 6/1 is/are rejected.
- 7) ☒ Claim(s) 2, 4/2, 5/2, 6/2, 7, 9/1, 9/2, 10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>9/25/2003</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of claims 1, 2, 4/1, 4/2, 5/1, 5/2, 6/1, 6/2, 7, 9/1, 9/2 and 10 in the reply filed on 8/13/2004 is acknowledged. Claims 3, 4/3, 5/3, 6/3, 8, 9/3, 11 and 12 are withdrawn, directed towards inventions non-elected.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 4/1, and 6/1 are rejected under 35 U.S.C. 102(b) as being anticipate by Kyomasu (US Patent 6,449,516 B1)

Kyomasu discloses (see especially Figure 2) an offset measuring mechanism comprising a position detection camera as claim (item 7), a bonding tool (item 4) disposed with an offset from the position detection camera, a moving means (Y-Y table, items 1 and 21) for moving the position detection camera and the bonding tool as an integral unit on a plane parallel to the bonding working plane, wherein the offset measuring mechanism that measures the offset comprises an offset measuring camera (item 12) which is disposed on an opposite side of the bonding working plane from the position detection camera and the bonding tool and which faces the bonding working plane. The control unit functions as the imaging positioning measuring means (column

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5), the tool positioning measuring means (column 5-6) and the offset calculating means (column 6).

As to claim 4/1, the object plane of the position detection camera and the object plane of the offset measuring camera are capable of coinciding.

As to claim 6/1, the control unit (item 20) also functions as an offset measuring camera magnification means, and is capable of using the moving means as claimed. Furthermore, the control (20) also calculates magnification, as disclosed in paragraph 0030 (required scale factor equals magnification)

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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6. Claim 5/1 rejected under 35 U.S.C. 103(a) as being unpatentable over Kyomasu (US 6,449,519) as applied to claim 1 above, and further in view of Hayata (US 2001/0042770)

Kyomasu discloses all of the limitations of claim 1. However, Kyomasu does not suggest using telecentric optical systems. However, Hayata discloses using telecentric optical systems to perform offset measurements, although by using the position detection camera and addition optical elements to enable dual functioning of that camera. However, in paragraph 0050, Hayata discloses "Telecentric lenses have a wide tolerance range for positional deviations in the direction facing the image-focusing plane. They are generally known for the fact that the size of the image (i.e., the distance from the optical axis) does not change even if the object position fluctuates, especially in cases where an object of imaging is illuminated by transmitted light that is parallel light. Such lenses are used in various types of industrial measuring instruments; and telecentric lenses or optical systems that have characteristics that are similar to telecentric are widely used in bonding apparatuses as well." These benefits would also be desirable in an offset camera such as that of Kyomasu. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized a telecentric optical system for the offset measuring camera in order to ensure a wide tolerance range for positional deviations.

Information Disclosure Statement

7. The information disclosure statement filed 9/25/2003 partially fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because no copy of the Kataoka reference has been supplied. This reference has been lined out of the 9/25/2003 IDS. See MPEP § 609.

Allowable Subject Matter

8. Claims 2, 4/2, 5/2, 6/2, 7, 9/1, 9/2 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. The following is a statement of reasons for the indication of allowable subject matter: With regard to claims 2, 4/2, 5/2, 6/2, 7, 9/2 and 10, while the prior art of record does disclose the details of claim 1, the prior art of record does not suggest, in the context of the limitations of claim 1, in an offset measuring mechanism comprising a bonding tool, that the position detection camera has a plurality of imaging elements disposed in two dimensions in directions of mutually perpendicular imaging reference axes of the imaging plane, and the reference position of the imaging range is a reference position of the two dimensional disposition of the plurality of imaging elements.

10. With regard to claim 9/1, the prior art of record does suggest generic controls capable of performing various calculations. However, the prior art of record does not suggest offset measuring camera inclination means, wherein said offset measuring camera inclination calculating means uses said moving means to move said bonding

tool into a measurement range of said offset measuring camera and to further move said bonding tool within said measurement range;


measures a movement direction of an image of said bonding tool on said imaging plane of said offset measuring camera corresponding to said movement relative to mutually perpendicular measurement reference axes on said imaging plane of said offset measuring camera;

and calculates a relative inclination between movement reference axes of said moving means and measurement reference axes of said offset measuring camera based upon a movement direction of said bonding tool relative to mutually perpendicular movement reference axes of said moving means and a movement direction of an image of said bonding tool.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to George R. Koch III whose telephone number is (571) 272-1230 (TDD only). If the applicant cannot make a direct TDD-to-TDD call, the applicant can communicate by calling the Federal Relay Service at 1-866-377-8642 and giving the operator the above TDD number. The examiner can normally be reached on M-Th 10-7.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Fiorilla can be reached on (571) 272-1187. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


George R. Koch III
Patent Examiner
Art Unit 1734

GRK
10/27/2004


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